

The Chemical Nature of Matter

7-5 The student will demonstrate an understanding of the classifications and properties of matter and the changes that matter undergoes. (Physical Science)

7-5.1 Recognize that matter is composed of extremely small particles called atoms.

Taxonomy level: 1.1-B Remember Conceptual Knowledge

Previous/Future knowledge: In 5th grade (5-4.1), students recalled that matter is made up of particles too small to be seen. Students have not been introduced to the concept of atoms in previous grades. Students will further develop the concept of atoms and atomic structure in high school Physical Science (PS-2.1 and PS-2.2).

It is essential for students to know that matter is composed of extremely small particles, too small to be seen with a classroom microscope, called *atoms*.

- Atoms are the smallest part of an element that has the chemical properties of the element.
- A single atom has mass and takes up space.

It is not essential for students to know the subatomic particles, for example, protons, neutrons, and electrons, which compose atoms. Atomic models do not need to be constructed or drawn.

Assessment Guidelines:

The objective of this indicator is to *recognize* that matter is composed of extremely small particles called atoms; therefore, the primary focus of assessment should be to remember the information that atoms are the extremely small particles of matter. However, appropriate assessments should also require students to *recall* that atoms have properties of matter.